

**Ancillary Services**

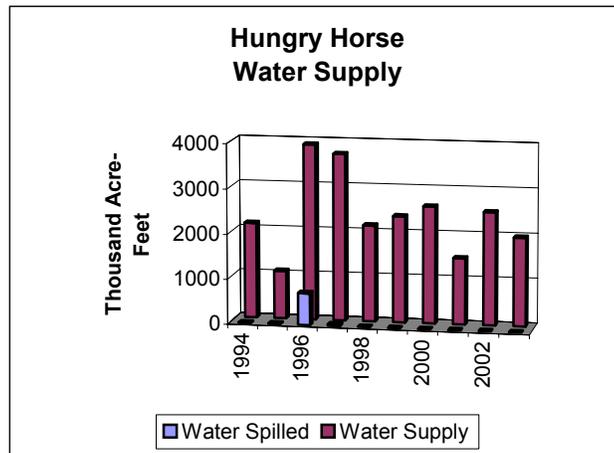
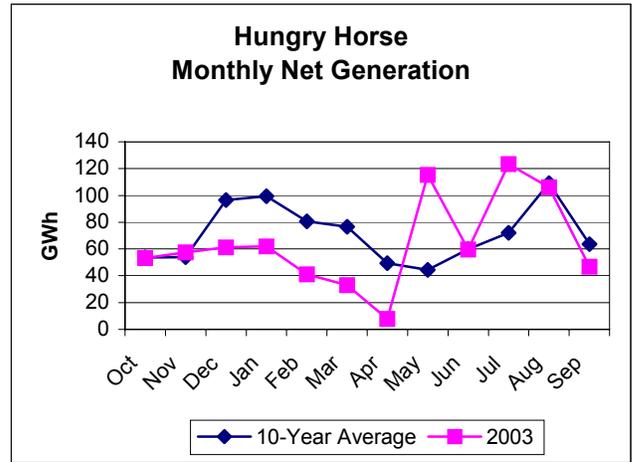
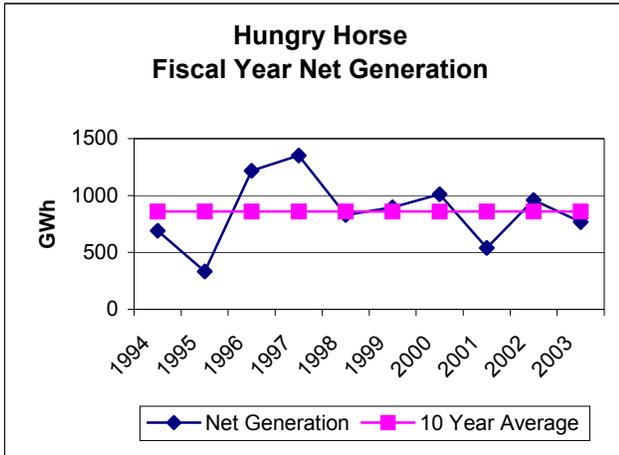
<b>Hungry Horse Ancillary Services</b>	
Spinning Reserve	Yes
Non-Spinning Reserve	Yes
Replacement Reserve	Yes
Regulation/Load Following	Yes
Black Start	Yes
Voltage Support	Yes

**Generators**

<b>Hungry Horse Generators</b>			
<b>Unit #</b>	<b>Original Nameplate (kW)</b>	<b>Increased (kW)</b>	<b>Present Nameplate (kW)</b>
1	71,250	35,750	107,000
2	71,250	35,750	107,000
3	71,250	35,750	107,000
4	71,250	35,750	107,000
4 Units	285,000	143,000	428,000

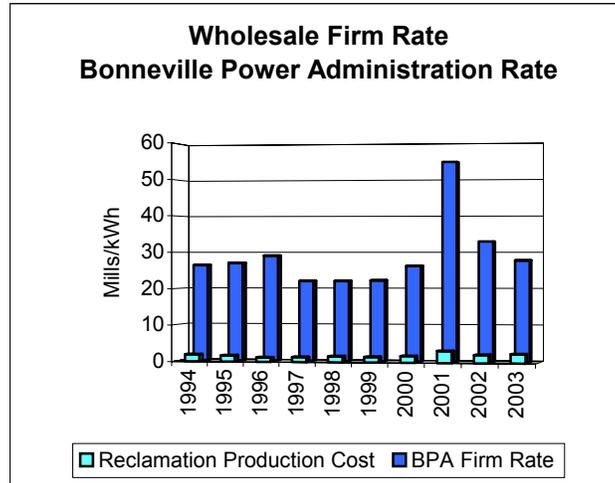
# Hungry Horse Powerplant 100-500 MW

## Generation

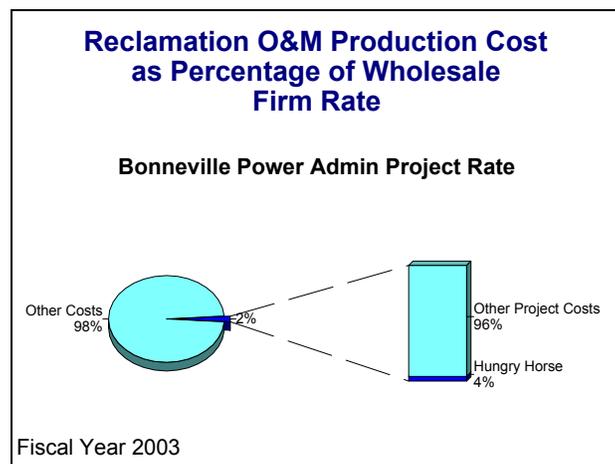


**Prime Laboratory Benchmarks**

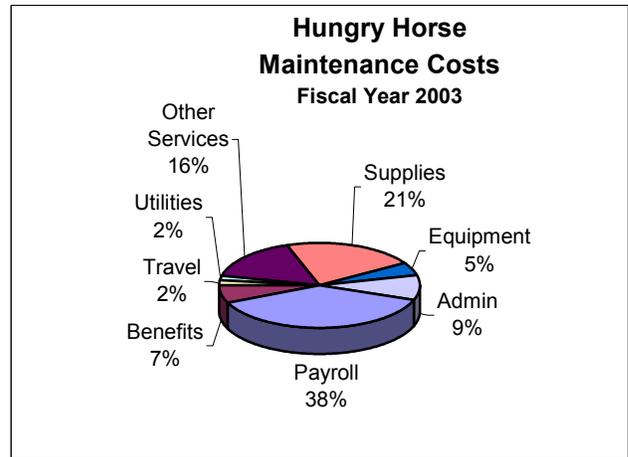
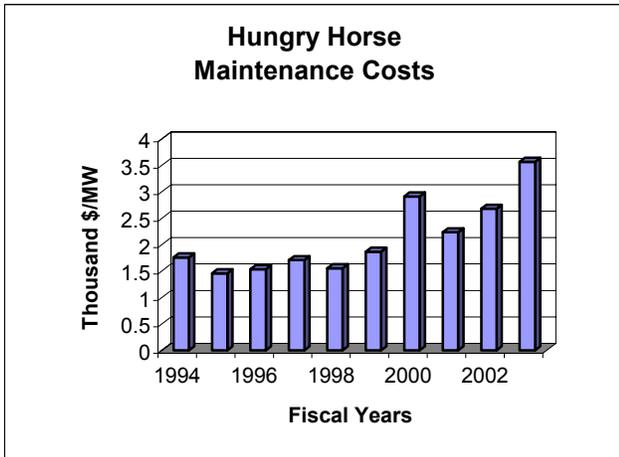
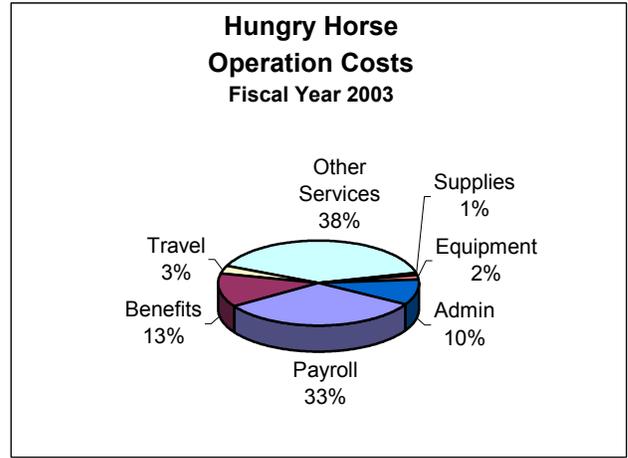
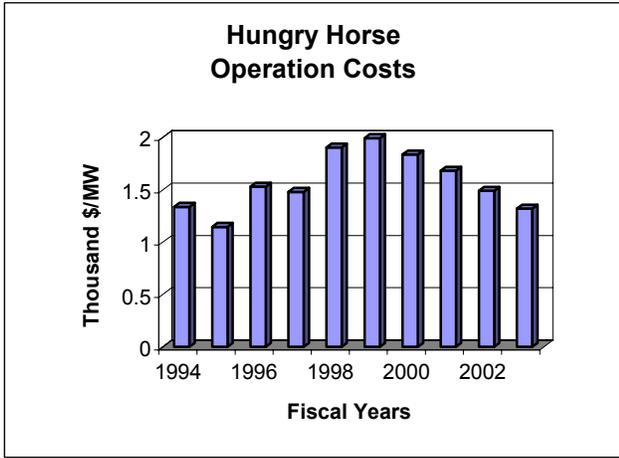
**Benchmark 1  
Wholesale Firm Rate**



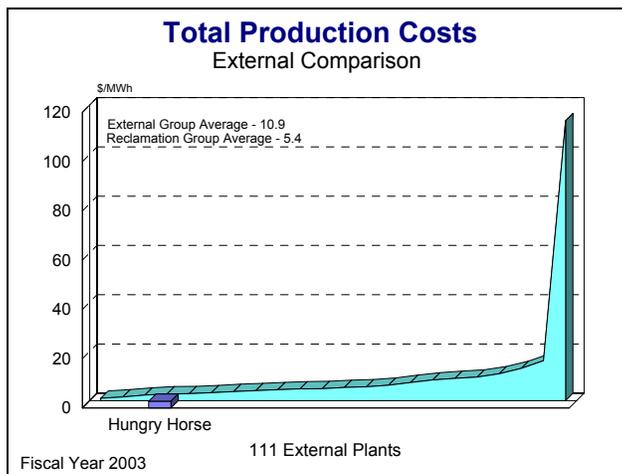
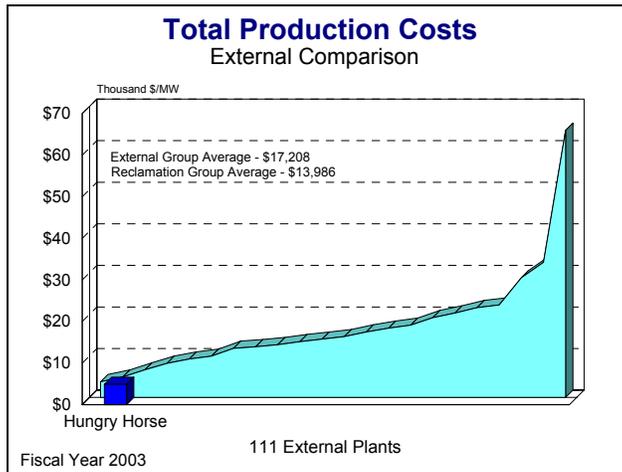
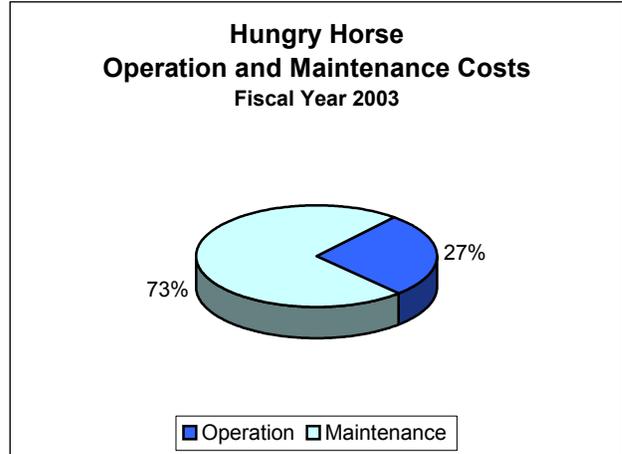
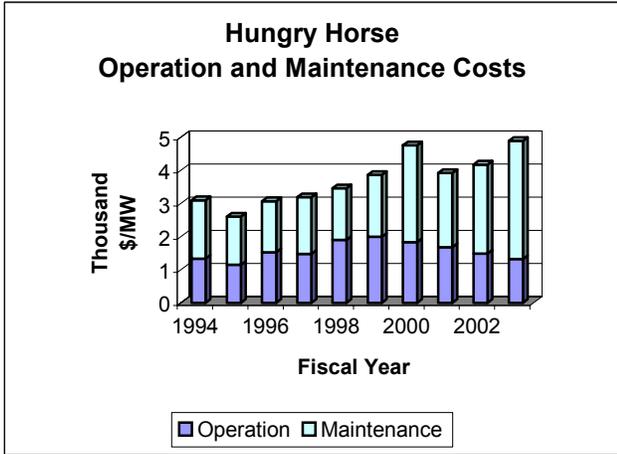
**Benchmark 2  
Reclamation's Production Cost as Percentage of Wholesale Firm Rate**



**Benchmark 3  
Production Cost**



**Benchmark 3  
Production Cost**

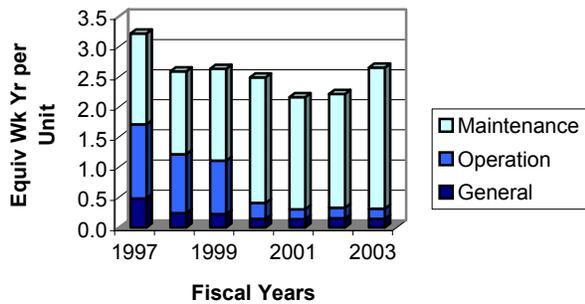


Benchmark 4  
Workforce Deployment

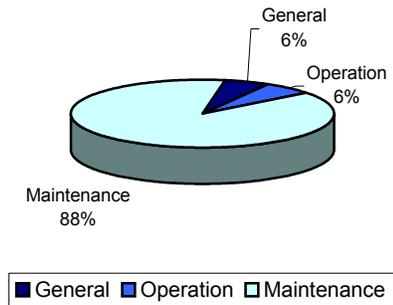
Hungry Horse  
2003 Equivalent  
Work Year Levels

	Equiv Work Year Charged to Powerplant	Leave Additive	Denver and Washington Equiv Work Year Additive	Total Equiv Work Year Allocated to Powerplant	Total Equiv Work year per Generating Unit	Total Equiv Work Year per Megawatt
General	0.45	0.05	0.09	0.59	0.15	0.001
Operation	0.59	0.06	0	0.66	0.16	0.002
Maintenance	8.45	0.92	0	9.37	2.34	0.022
Total Staffing	9.49	1.04	0.09	10.61	2.65	0.02

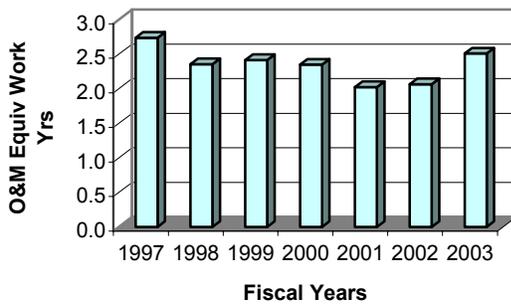
Hungry Horse  
Equivalent Work Year per Unit



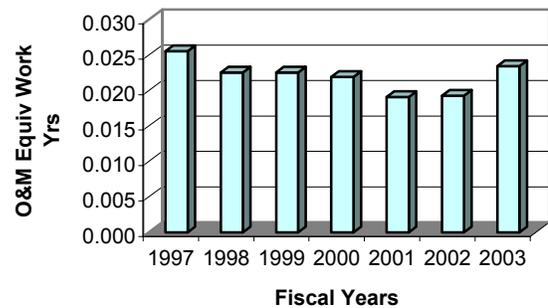
Hungry Horse  
Equivalent Work Year per Unit  
2003



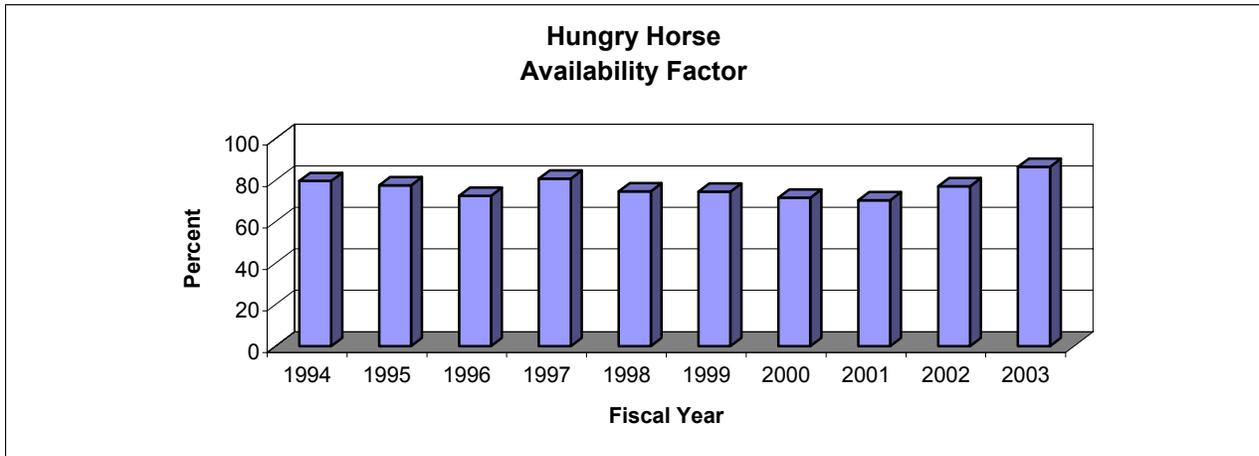
Hungry Horse  
O&M Equivalent Work Years per Unit



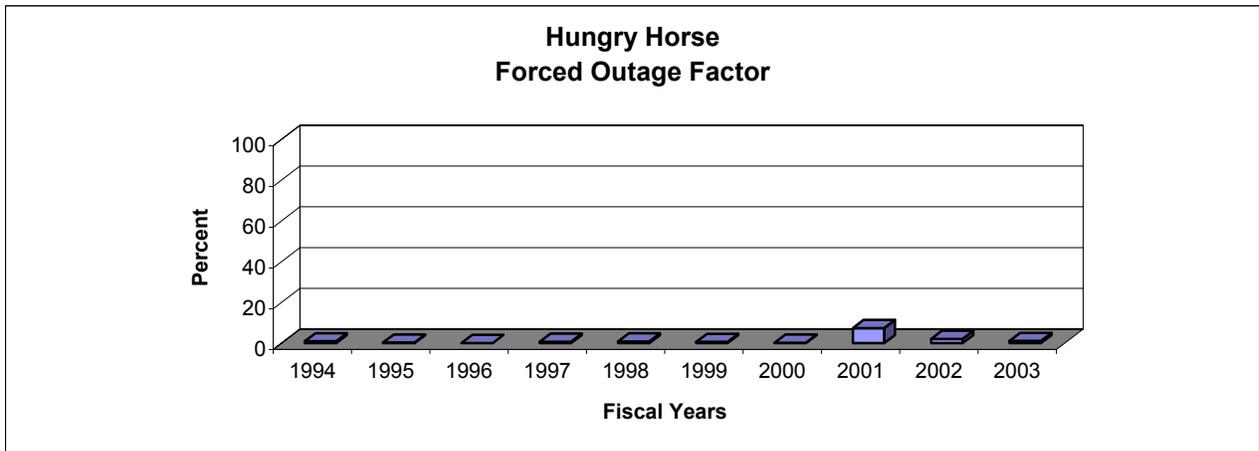
Hungry Horse  
O&M Equivalent Work Years per MW



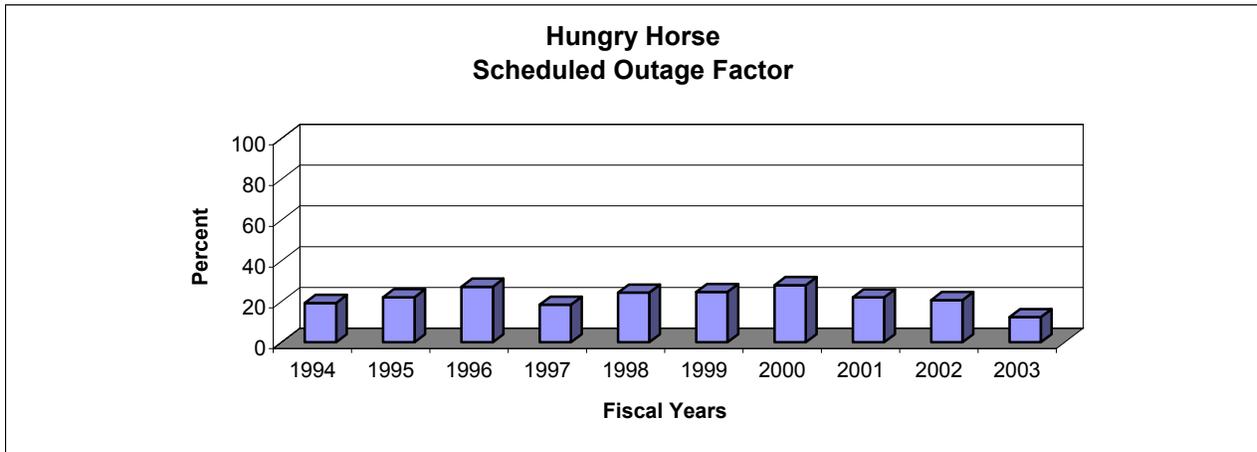
**Benchmark 5  
Availability Factor**



**Benchmark 6  
Forced Outage Factor**



**Benchmark 7  
Scheduled Outage Factor**

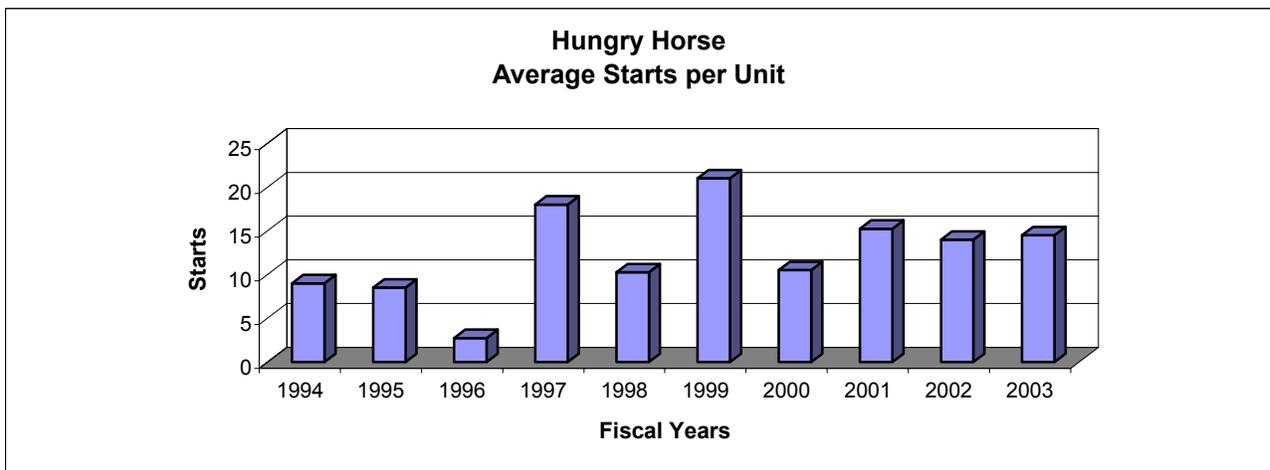


FY-94 - Rebuild of fixed wheel gate and automation work.

FY-95 - Automation work and installation of withdrawal system on the unit intakes.

FY-96, FY-97, FY-98 - Automation work

**Starts**



## Benchmark Data Comparison

Fiscal Year 2003	Hungry Horse Powerplant	Reclamation Average 100-500 MW Group	Total Reclamation Average	Industry Average	Best Performers
Wholesale Firm Rate Mills/kWh	27.7	Not Applicable	*23.1	Not Available	Not Available
Production Cost as Percentage of Wholesale Firm Rate	0.07%	Not Applicable	12.0%	Not Applicable	Not Applicable
O&M Cost \$/MWh	2.7	4.5	2.7	10.9	1.1
O&M Costs \$/MW	4,890	10,924	7,315	17,261	3,108
O&M Equiv Work Year per MW	0.02	0.1	0.04	Not Available	0.01
Availability Factor	86.5	87.6	83.6	**88.9	99.1
Forced Outage Factor	1.1	0.8	1.5	**2.4	0.0
Scheduled Outage Factor	12.4	11.7	14.9	**8.7	0.0

\*Weighted by Net Generation

\*\*2002 NERC Average